

Claims

1. A catalyst for fluidized catalytic cracking of a heavy hydrocarbon oil, which comprises a fluoride salt of a divalent or trivalent metal, wherein the fluoride salt of a divalent or trivalent metal is a compound showing an XRD pattern of a fluoride salt of a divalent or trivalent metal.
2. The catalyst according to claim 1, wherein the fluoride salt of a divalent or trivalent metal is dispersed in an inorganic oxide matrix.
3. The catalyst according to claim 1, wherein the fluoride salt of a divalent or trivalent metal is dispersed in an inorganic oxide matrix together with a crystalline aluminosilicate zeolite.
4. The catalyst according to any one of claims 1 to 3, wherein in the fluoride salt of a divalent or trivalent metal, the bivalent metal is at least one selected from the group consisting of  $Mg^{2+}$ ,  $Ca^{2+}$ ,  $Sr^{2+}$  and  $Mn^{2+}$ , and the trivalent metal is at least one selected from the group consisting of  $La^{3+}$ ,  $Ce^{3+}$ ,  $Mn^{3+}$  and  $Y^{3+}$ .

5. A method of fluidized catalytic cracking of a heavy hydrocarbon oil, which comprises:

- (1) using a catalyst (Standard Catalyst A) obtained by homogeneously dispersing a crystalline aluminosilicate zeolite in an inorganic oxide matrix and at least one of the catalyst (Catalyst B) according to claim 1, the catalyst (Catalyst C) according to claim 2, and the catalyst (Catalyst D) according to claim 3 in combination,
- (2) using Catalyst D and at least one of Catalyst B and Catalyst C in combination, or
- (3) using Catalyst D alone.